

Recombinant Human Lipocalin-2/NGAL/LCN2 Protein

Catalog No.: RP01955 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	3934	P80188

Tags

C-His

Synonyms

LCN2; HNL; NGAL; Neutrophil gelatinase-associated lipocalin; NGAL; 25 kDa alpha-2-microglobulin-related subunit of MMP-9; Lipocalin-2; Oncogene 24p3; Siderocalin; p25

Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

Calculated MW **Observed MW**

Endotoxin

< 0.01 EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

Lipocalin-2, also known as Neutrophil Gelatinase-Associated Lipocalin (NGAL), was originally identified as a component of neutrophil granules. It is a 25 kDa protein existing in monomeric and homo- and heterodimeric forms, the latter as a dimer with human neutrophil gelatinases (MMP-9). Its expression has been observed in most tissues normally exposed to microorganism, and its synthesis is induced in epithelial cells during inflammation. Lipocalin-2 has been implicated in a variety of processes including cell differentiation, tumorigenesis, and apoptosis. Studies indicate that Lipocalin-2 binds a bacterial catecholate siderophore bound to ferric ion such as enterobactin with a subnanomolar dissociation constant. The bound ferric enterobactin complex breaks down slowly in a month into dihydroxybenzoyl serine and dihydroxybenzoic acid (DHBA). It also binds to a ferric DHBA complex with much less Kd values (7.9 nM). Secretion of Lipocalin-2 in immune cells increases by stimulation of Toll-like receptor as an acute phase response to infection. As a result, it acts as a potent bacteriostatic reagent by sequestering iron. Moreover, Lipocalin-2 can alter the invasive and metastatic behavior of Ras-transformed breast cancer cells in vitro and in vivo by reversing epithelial to mesenchymal transition inducing activity of Ras, through restoration of E-cadherin expression, via effects on the Ras-MAPK signaling pathway.

Basic Information

Description

Recombinant Human Lipocalin-2/NGAL/LCN2 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Gln21-Gly198) of Human Lipocalin-2/NGAL/LCN2 (Accession #NP_005555.2) fused with a His tag at the C-terminus.

Bio-Activity

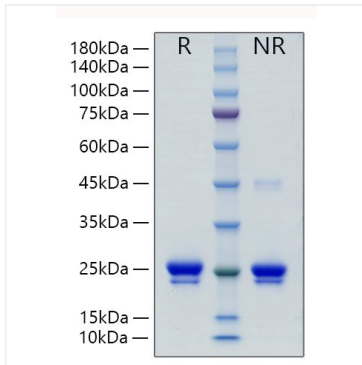
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80°C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human Lipocalin-2/NGAL/LCN2 Protein was resolved with SDS PAGE under reducing (R) and non-reducing (NR) conditions., showing single bands at 20-25 kDa and 20-25,40-45 kDa. respectively.